ATTACHMENT 9. WATER QUALITY AND OTHER EXPECTED BENEFITS

For the "AttachmentName" in the naming convention of BMS, use "**WQOtherBen**" for this attachment. See Exhibit E for detailed guidance on the preparation of this attachment. There is no page limitation for Attachment 9; however, applicants are encouraged to be clear and concise.

Benefits derived from the Proposal may extend beyond the water supply benefits described in Attachment 7 (see above). This attachment allows applicants to claim benefits other than flood damage reduction and water supply benefits. Qualitative analysis is acceptable if it is not feasible to quantify the benefits and the applicant provides adequate justification.

Note that commitment to providing the other expected benefits will become a term of the grant agreement if the Proposal is selected for funding.

Exhibit E

This exhibit provides methods and formats for estimating and presenting, in Attachment 9, the Water Quality and Other Expected Benefits of the Project. If the Project does not have Water Quality and Other Expected Benefits; then simply state so in Attachment 9. For Projects with Water Quality and Other Expected Benefits, applicants must describe such benefits. If possible, each such benefit should also be quantified and presented in physical or economic terms. If not possible to quantify the benefits, please include an explanation and justification of why it cannot be done. In addition to Table 19 – Water Quality and Other Expected Benefits, the applicant should provide the following items:

Narrative: Water Quality and Other Expected Benefits of the Project
Narrative discussion of the estimates of without-project physical conditions.
The Project will continue to flood across open areas producing erosion that transfers pollutants into the natural waterways of the San Jacinto River, Canyon Lake, and Lake Elsinore. Existing ecosystems will continue to be subject to periodic flooding and silt and debris deposits, and recreational uses for trails will be fragmented.
Narrative discussion of the estimates of with-project physical conditions.
The Project will remove silt and debris and minimize the amounts of nitrogen, phosphorus and other chemicals that would otherwise be included in the runoff that would have flooded local farm fields. The Project will contain the flood flows and reduce erosion that would transfer pollutants into the natural waterways of the San Jacinto River, Canyon Lake, and Lake Elsinore. Contained flood flows and reduced erosion would reduce the need to dredge affected water bodies. Existing ecosystems will be maintained and new ecosystems will be created within the earthen portion of the channel and at the connection with the San Jacinto River.
Description of methods used to estimate without- and with-project conditions.
Pollutants are measured for the SARWQCB by RCFC&WQD upstream of Canyon Lake. Water supply and quality of local groundwater reported by local water agency.
Description of potential other benefits.
A new trail system will be constructed with the channels that provides direct connection from the mountains to the San Jacinto River. Interpretive Signage will be included with the trail system to inform users of the importance of flood control and the environment.
Description of the distribution of local, regional, and statewide benefits, as applicable.

All benefits are local. This Project creates a locally-available, reliable supply of improved groundwater by reducing top soil erosion and pollutants and implementing water quality BMPs.

Identification of beneficiaries.
Eastern Municipal Water District and their users.
When the benefits will be received.
Benefits will be received by the groundwater producing agency within one-year of the completion date of the Project.
Uncertainty associated with the benefits.
It is proven science that detention basins built with permeable soils are effective in removing pollutants. Soil line drainage channels with permeable inverts will also be effective at removing pollutants and promoting infiltration into the groundwater. The net area of the channels in Phases 2, 3 and 4 will be 14 acres and the area of the two detention basins is 30 acres. The channels will be infiltrating during the storms and during the drawdown of the detention basins. The channels will increase infiltration by about 41%.
Description of any adverse effects.
The Project improvements are below ground so they don't provide any danger to the public.

Applicants should attempt to make descriptions as detailed and quantitative as possible using existing information or reasonable effort. Computer models can be used to provide quantitative analyses of benefits but such detailed analysis is not required. For presenting analysis, clear, concise tables and narrative descriptions are preferred.

The Water Quality and Other Expected Benefits may include, but are not limited to, the following benefit types:

Water Quality – water quality benefits include: improvements related to protecting, restoring, or enhancing beneficial uses; water quality improvements for impaired water bodies and sensitive habitats; avoided water quality projects costs; avoided water treatment costs; avoided wastewater treatment costs; and water quality improvements related to providing water supplies (if not already captured as a water supply benefit).

Ecosystem Restoration – Ecosystem restoration includes habitat restoration, ecosystem improvements and preservation, and fish and wildlife enhancement. If a Habitat Evaluation Procedure has been performed, enter information from that analysis. A Habitat Evaluation Procedure for ecosystem restoration is preferred but not required. For ecosystem restoration analysis, applicants may count benefits from both restoration and preservation of high-quality existing habitat. The ecosystem benefits analysis should take into account both structural and functional elements of the ecosystem being protected or restored. Without- and with-project conditions for ecosystem restoration could include the acreage of habitat, the quality of that habitat, and the special-status species considered in the analysis.

Recreation and Public Access – Recreation and public access benefits should be documented on a with-and-without-project basis. With- and without-project conditions could include the types and quality of recreational activities, visitor days, and unit day values.

Power Cost Savings and Production – Power cost savings and power production benefits should be based on market value of power. Document the quantity and the unit value of the power saved or produced. Include information on when the savings or production would occur (time of year, time of day), change in capacity, or other factors that influence the cost savings or production benefit.

Other – If the Project has benefits not already accounted for, please describe them in detail. Some benefits, such as in-stream flow, may be difficult to categorize. In such cases, the applicant should attempt to place it in the most appropriate category or categories, or describe it as an "Other" benefit.

An Excel spreadsheet version of Table 19 can be found at: http://www.water.ca.gov/irwm/integregio_resourceslinks.cfm. Table 19 should be used to present Water Quality and Other Expected Benefits, whether they are quantifiable in either physical or economic terms. To present only physically quantified benefits, then the applicant should complete Columns (b) through (f) of Table 19. If the applicant also wants to claim economic benefits based on unit dollar values, then columns (g) through (j) must be completed. To complete Table 19, the applicant should use the following steps:

Identify all water quality and other benefits associated with the project and enter these for year 2009 in column (b); a separate row will be used for each benefit. For example, if "water quality" is a benefit of the project, this would replace the "a" in column (b). Repeat this for each benefit and then for all years of the Project Life.
Identify the measure (e.g., units) of each benefit claimed in column (c).
Identify the level (units) of each benefit for the without-Project condition in column (d).
Identify the level (units) of each benefit for the with-Project condition in column (e).
Enter the result of subtracting Column (d) from Column (e) to determine the change in the resource conditions resulting from the Project in Column (f).
Complete columns (g) through (j) only if a monetary value for the benefit has been identified.

Enter the result of multiplying each value in Column (f) by the $ unit value in Column (g) in Column (h).

Column (i) contains the discount factors provided in Exhibit C, Table 8.

Enter the result of multiplying each value in Column (h) by the discount factor in Column (i) in Column (j).

Sum discounted benefits for all benefit types for all years in Colum (j). This value is transferred to Table 20, column (f) in Exhibit F: Proposal Project Costs and Benefits Summary.
Comment Box: enter any sources and references, including page numbers, supporting the numbers used in Table 19.

Table 19 – Water Quality and Other Expected Benefits (Not Quantified)

Table 19 - Water Quality and Other Expected Benefits
(All benefits should be in 2009 dollars)
Project: Menifee Flood Control Project

(a) Year	(b) Type of Benefit	(c) Measure of Benefit (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) – (d)	(g) Unit $ Value (1)	(h) Annual $ Value (f) x (g) (1)	(i) Discount Factor (1)	(j) Discounted Benefits (h) x (i) (1)
2009	a				0		$0	1.000	$0
	b				0		$0	1.000	$0
	c				0		$0	1.000	$0
	..				0		$0	1.000	$0
2010	a				0		$0	0.943	$0
	b				0		$0	0.943	$0
	c				0		$0	0.943	$0
	..				0		$0	0.943	$0
2011	a				0		$0	0.890	$0
	b				0		$0	0.890	$0
	c				0		$0	0.890	$0
	..				0		$0	0.890	$0
Project Life								…	
								Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table) Transfer to Table 20, column (f), Exhibit F: Proposal Costs and Benefits Summaries	

Comments:

(1) Complete these columns if dollar value is being claimed for the benefit.